TA-AX310

SERVICE MANUAL

US Model
Canadian Model
AEP Model
UK Model
E Model

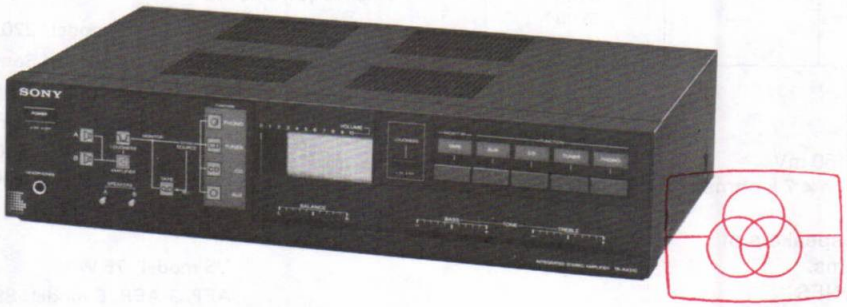

Photo: US, Canadian model

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SPECIFICATIONS

Amplifier section

Power output and total harmonic distortion (US model):
With 8 ohm loads, both channels driven, from 40 – 20,000 Hz; rated 32 watts per channel minimum RMS power, with no more than 0.08% total harmonic distortion from 250 milliwatts to rated output.

Continuous RMS Power Output: (Canadian, AEP, G-AEP, UK, E model)

(both channels driven simultaneously)
At 1 kHz, 5% THD
40 + 40 watts (8 ohms)
At 1 kHz, 0.08% THD
35 + 35 watts (8 ohms)
At 40 Hz - 20 kHz, 0.08% THD
32 + 32 watts (8 ohms)
According to DIN 45500
32 + 32 watts

Music power output
130 W (8 ohms)

Power bandwidth (IHF)
20 Hz - 30 kHz

Dynamic headroom
1.2 dB ('78 IHF)

Harmonic distortion
Less than 0.08% at rated output

Intermodulation (IM) distortion
(60 Hz : 7 kHz = 4 : 1) Less than 0.08% at rated output

Frequency response
PHONO : RIAA equalization curve ±0.5 dB
TUNER, CD, AUX, TAPE } 15 Hz - 70 kHz ±3.0 dB

Residual noise Less than 100 μV (8 ohms, network A)

Damping factor AEP, G-AEP, UK, E model: 50 (8 ohms, 1 kHz)
US, Canadian model: 36 (8 ohms, 1 kHz)

—Continued on page 2—

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!

LES COMPOSANTS IDENTIFIÉS PAR UNE TRAME ET UNE MARQUE ⚠ SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY SHADING AND MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

INTEGRATED STEREO AMPLIFIER

SONY®

MICROFILM

AUD

Inputs

	Sensitivity	Impedance	Maximum input capability (1 kHz)	S/N (weighting network, input level)
PHONO	2.0 mV	50k ohms	120 mV	70 dB 74 dB* (A, 2.0 mV)
TUNER CD AUX TAPE	150 mV	50k ohms	—	98 dB 85 dB* (A, 150 mV)

* '78 IHF

Outputs
REC OUT
Voltage 150 mV
Impedance 4.7 k ohms
SPEAKER
Accepts speakers of 8 - 16 ohms.
HEADPHONES
Accepts low impedance headphones.

Tone controls
BASS
±8 dB at 100 Hz (turnover freq. 300 Hz)
TREBLE
±7 dB at 10 kHz (turnover freq. 3 kHz)

Loudness (Att. 30 dB)
6 dB at 100 Hz

General

System
Preamplifier section : low-noise IC NF type equalizer amplifier
Power amplifier section : quasi-complementary SEPP OTL OCL power amplifier with all stages direct coupled

Power requirements
AEP, G-AEP model: 220 V ac (or 240 V ac adjustable by authorized Sony personnel), 50/60 Hz
UK model: 240 V ac (or 220 V ac adjustable by authorized Sony personnel), 50 Hz
US, Canadian model: 120 V ac, 60 Hz
E model: 120, 220 or 240 V ac adjustable, 50/60 Hz

Power consumption
US model: 75 W
AEP, G-AEP, E model: 85 W
UK model: 70 W
Canadian model: 115 W

AC outlets
AEP, G-AEP, UK model: 3 switched, total 100 watts max.
US, Canadian, E model: 2 switched total 100 watts max, 1 unswitched 100 watts max.

Dimensions
430 × 106 × 285 (w/h/d)
(17 1/8 × 4 1/4 × 11 1/4 inches)
including projecting parts and controls

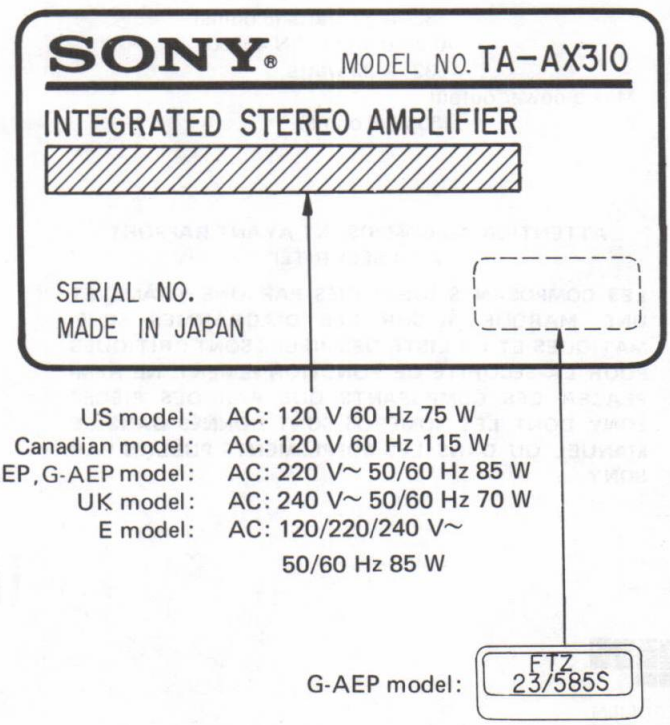
Weight
Approx. 4.8 kg (10 lbs 9 oz) net
Approx. 6.3 kg (13 lbs 14 oz) in shipping carton

FEATURES

The TA-AX310 integrated stereo amplifier provides dynamic sound. The block diagram of the amplifier is shown on its attractive front display and enables the signal flow to be read at a single glance.

- Power output of 32 + 32 watts (40 Hz -20 kHz, 0.08% THD).
- Independent CD inputs for connecting a CD player to your stereo system.
- Ability to drive two pairs of speaker systems either individually or simultaneously (for US, Canadian model).

MODEL IDENTIFICATIONS
— Specification Label —


SONY®
MODEL NO. TA-AX310
INTEGRATED STEREO AMPLIFIER
SERIAL NO.
MADE IN JAPAN
US model: AC: 120 V 60 Hz 75 W
Canadian model: AC: 120 V 60 Hz 115 W
AEP, G-AEP model: AC: 220 V~ 50/60 Hz 85 W
UK model: AC: 240 V~ 50/60 Hz 70 W
E model: AC: 120/220/240 V~ 50/60 Hz 85 W
G-AEP model:
FTZ 23/585S

SAFETY CHECK-OUT (US Model)

After correcting the original service problem, perform the following safety check before releasing the set to the customer:
Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microampers). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2 V AC range are suitable. (See Fig. A)

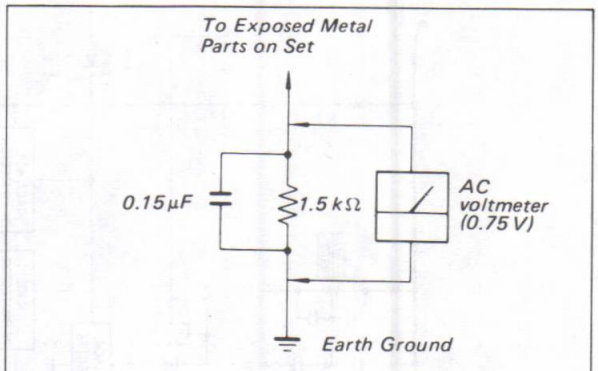
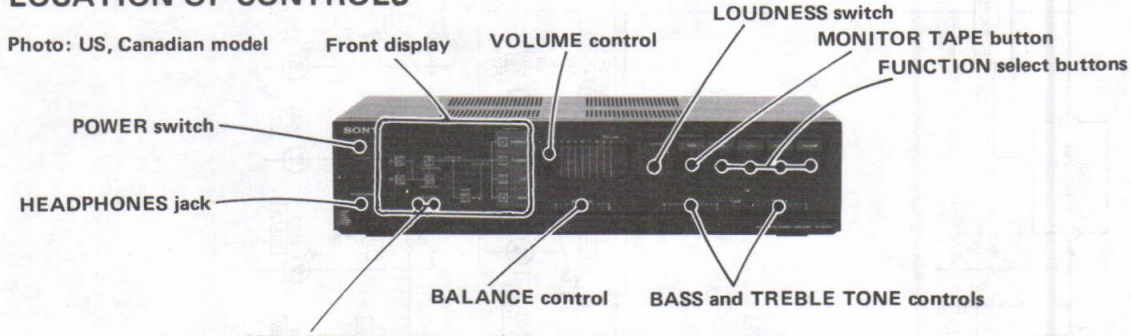
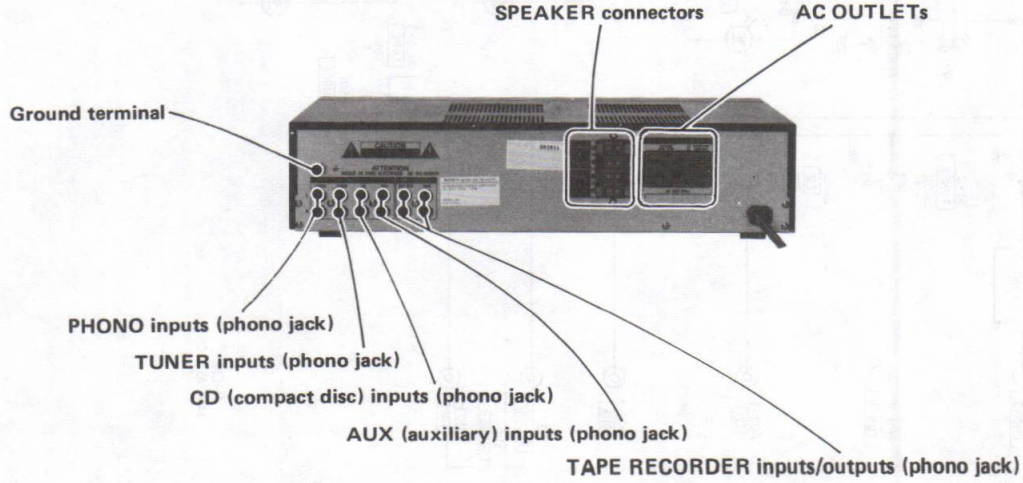


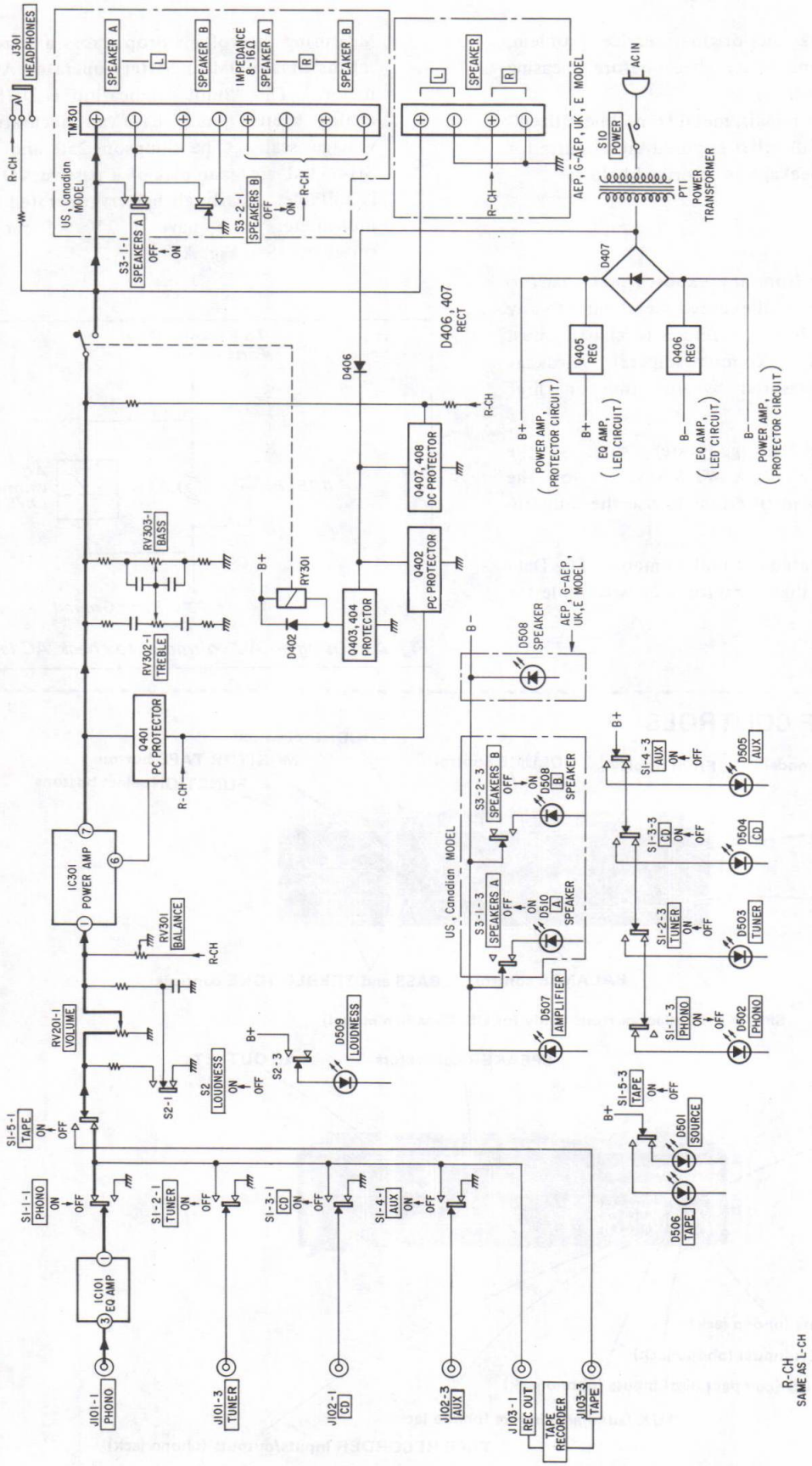
Fig. A. Using an AC voltmeter to check AC leakage.

LOCATION OF CONTROLS





SECTION 1
BLOCK DIAGRAM



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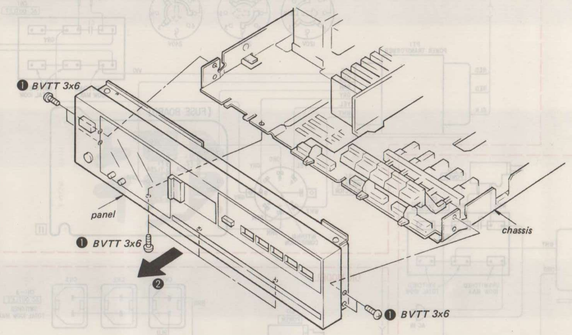
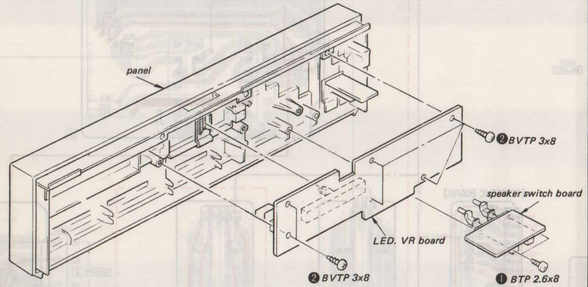
SECTION 2
DISASSEMBLY

• Note: Follow the disassembly procedure in the numerical order given.

PANEL REMOVAL

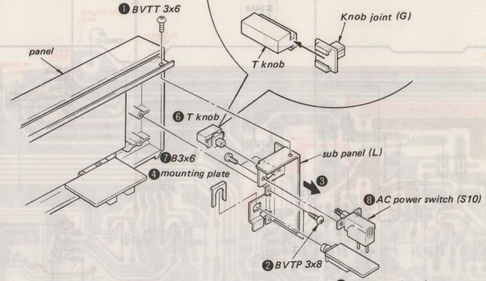


SPEAKER SWITCH BOARD AND LED VR BOARD REMOVAL

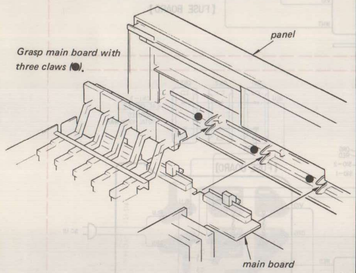


HEADPHONE BOARD AND AC POWER SWITCH REMOVAL

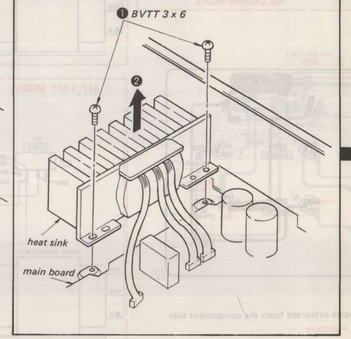
Headphone board : ❶ – ❺
AC power switch (S10) : ❶, ❷, ❻ – ❽



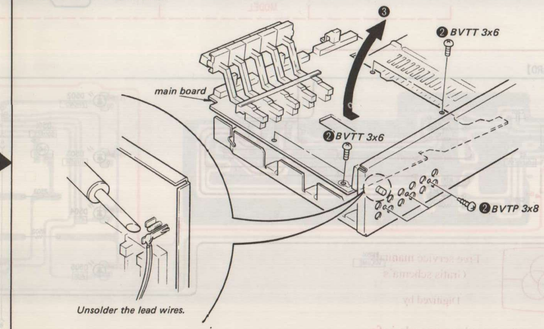
• Caution on reassembling
– Panel Assembly –



HEAT SINK REMOVAL



MAIN BOARD REMOVAL



MEMO

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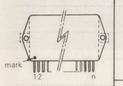
SECTION 3
DIAGRAMS

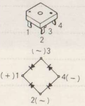
- **Semiconductor lead layouts**

STK-465A

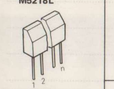


2SB834
2SD880

RB402



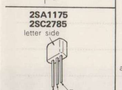
M5218L



1S953-7
10E-2
HZ15-3L

GL-5NG27

2SA1175
2SC2785



- **Note on SCHEMATIC DIAGRAM**

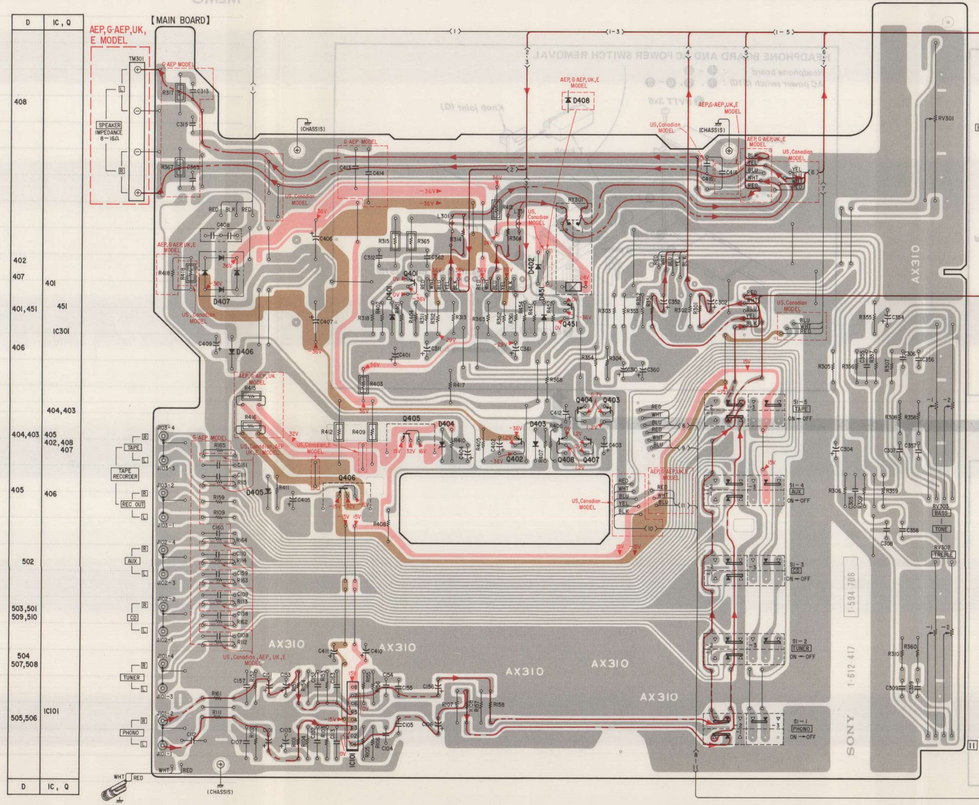
- Components for right channel have same values as for left channel. Reference numbers are coded from 150, 250, 350.
- All capacitors are in μF unless otherwise noted. pF : μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in ohms, ¼ W unless otherwise noted. kΩ : 1000 Ω, MΩ : 1000 kΩ
- : nonflammable resistor.
- : panel designation.
- ——— : B+ bus.
- ——— : B− bus.
- Voltages are dc with respect to ground unless otherwise noted.
- Readings are taken under no-signal conditions.
- Voltage variations may be noted due to normal production tolerances.
- Switch

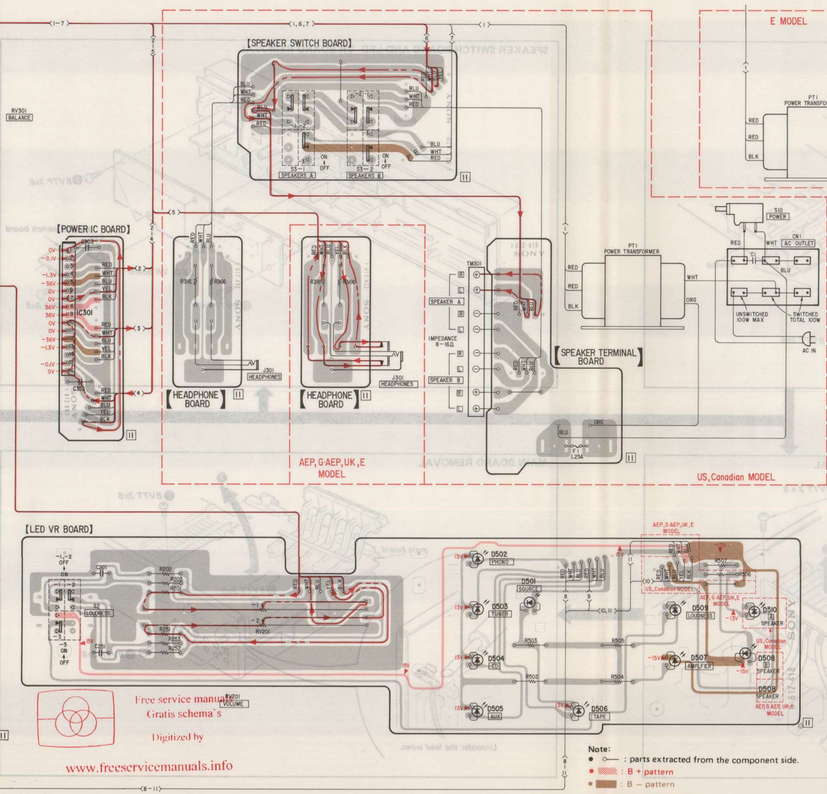
Ref. No.	Switch	Position
S1-1	PHONO	ON
S1-2	TUNER	OFF
S1-3	CD	OFF
S1-4	AUX	OFF
S1-5	TAPE	OFF
S2	LOUDNESS	OFF
S3-1	SPEAKER A (US, Canadian MODEL)	ON
S3-2	SPEAKER B (US, Canadian MODEL)	OFF
S10	POWER	OFF

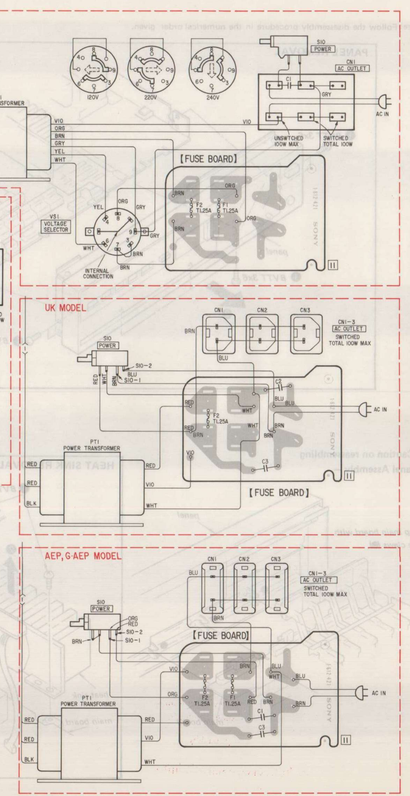
- : signal path

Note: Voltages are measured with a VOM (50kΩ/V).

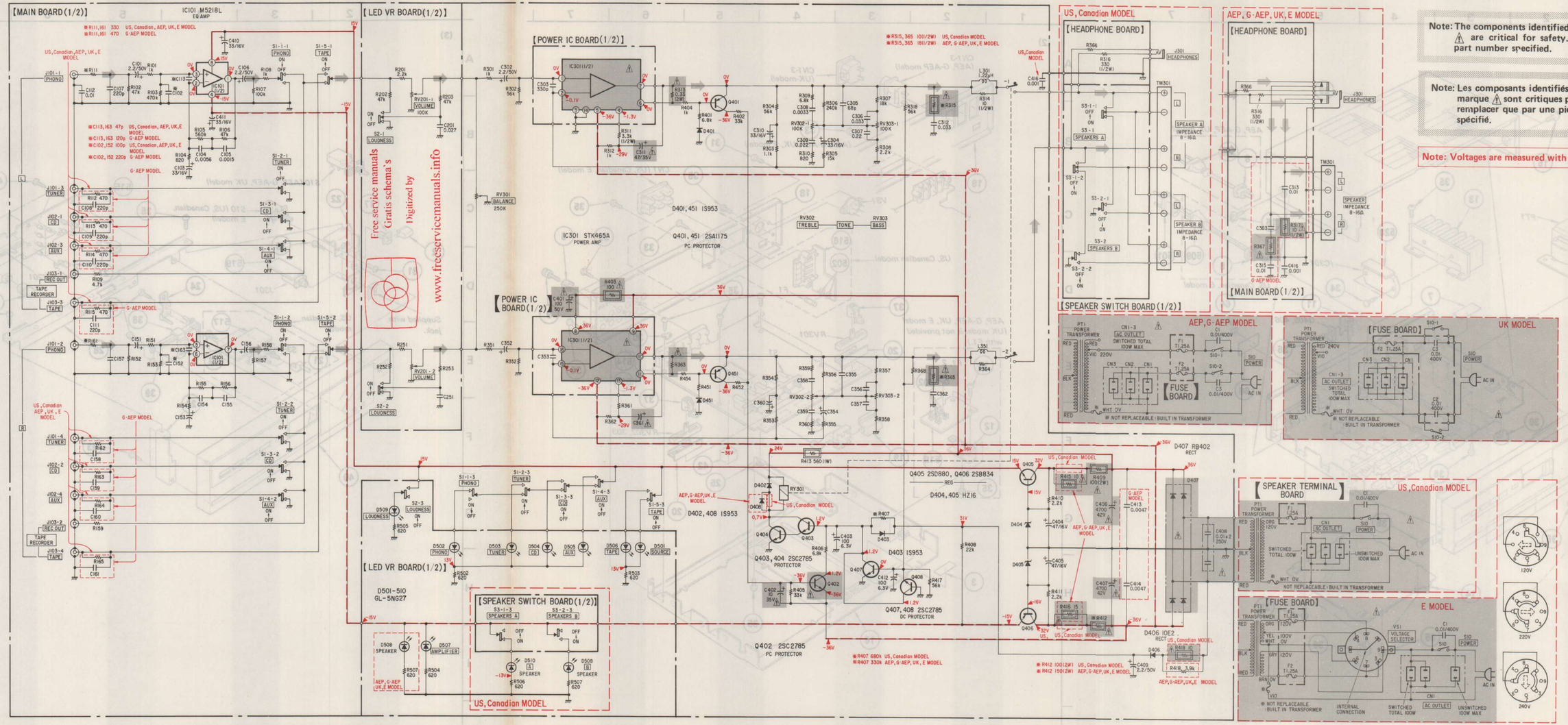
3-1. MOUNTING DIAGRAM







3-2. SCHEMATIC DIAGRAM • See page 9 for notes.

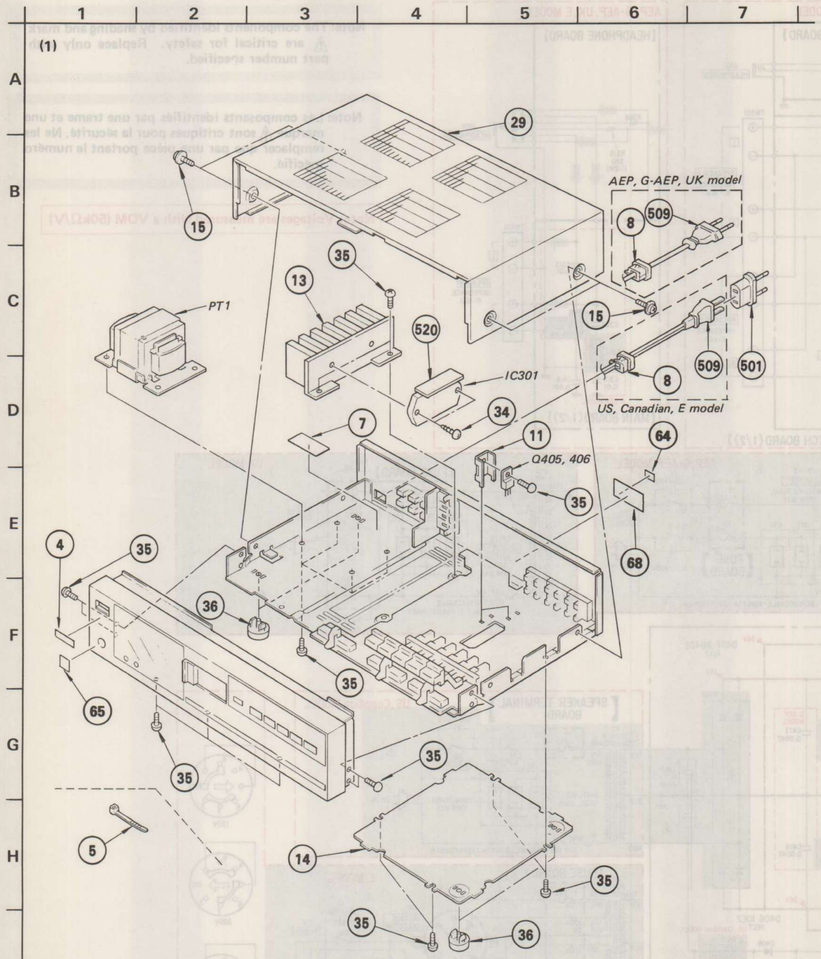


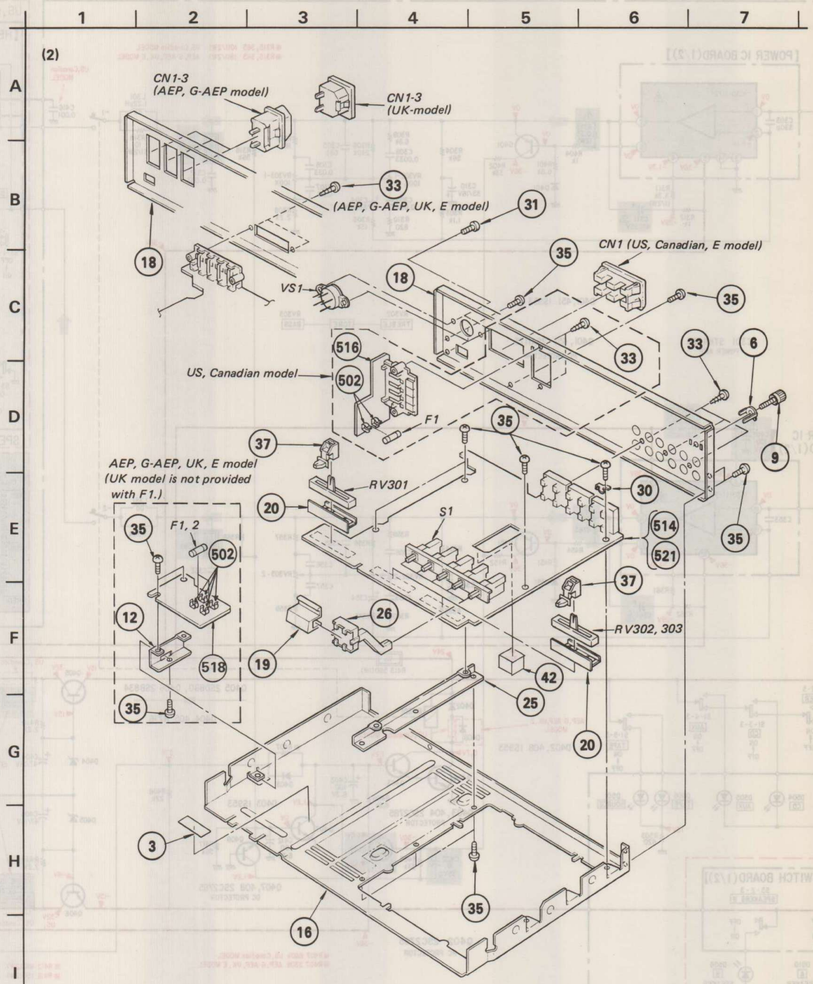
Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

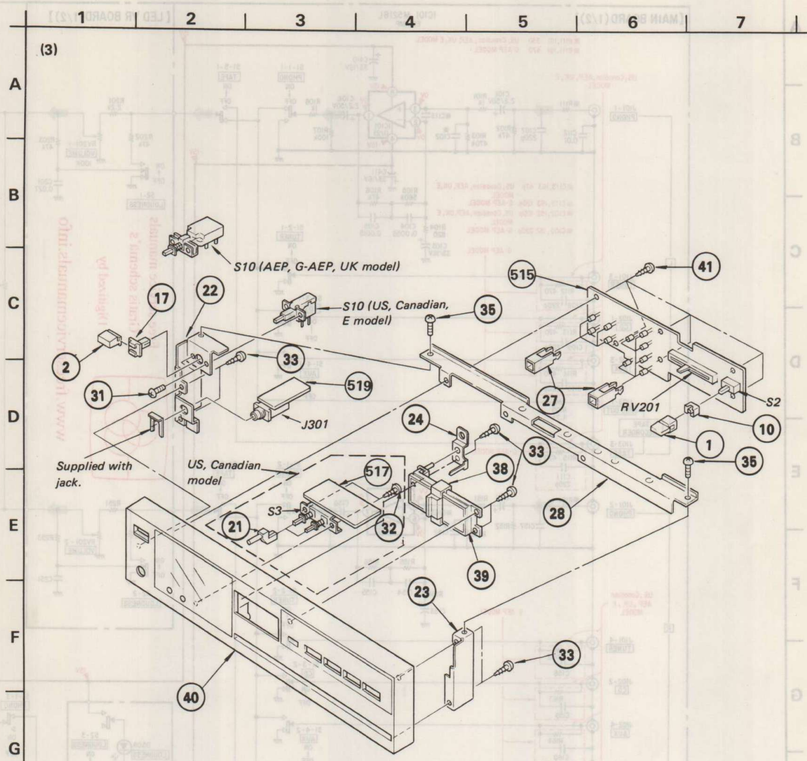
Note: Les composants identifiés par une trame et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Note: Voltages are measured with a VOM (50kΩ/V)

SECTION 4
EXPLODED VIEWS AND PARTS LIST







GENERAL SECTION

No.	Part No.	Description
1	3-315-105-21	(BLACK).....KNOB (5X16), SQUARE
1	4-881-704-81	(SILVER)....KNOB (5X16), SQUARE
2	3-318-911-01	(SILVER)....KNOB (POWER.L), T MOLD
2	3-318-911-11	(BLACK).....KNOB (POWER.L), T MOLD
3	3-701-030-00	LABEL, SERIAL NUMBER
4	3-701-690-00	(UK).....LABEL (MADE IN JAPAN)
5	3-701-748-00	CLAMP
6	3-701-993-00	SPACER, TERMINAL
7	3-703-044-26	(US,Canadian)....LABEL, CAUTION
8	3-703-244-00	(AEP,G-AEP,UK)....BUSHING, CORD
8	3-703-571-00	(US,Canadian,E)...BUSHING (S), CORD
9	3-706-165-00	SCREW
10	4-864-307-00	RING
11 ♦	4-866-647-00	HEAT SINK
12 ♦	4-881-414-00	(AEP,G-AEP,UK,E)...BRACKET (FUSE)
13 ♦	4-881-415-00	HEAT SINK (A)
14 ♦	4-881-424-00	PLATE, BOTTOM
15	4-889-321-01	(SILVER)...SCREW
15	4-889-321-11	(BLACK)....SCREW
16 ♦	4-889-335-11	CHASSIS
17 ♦	4-902-831-01	JOINT (G), KNOB
18 ♦	4-904-401-01	(AEP,G-AEP).....PLATE, JACK
18 ♦	4-904-402-01	(UK).....PLATE, JACK
18 ♦	4-904-403-01	(E).....PLATE, JACK
18 ♦	4-904-404-01	(US,Canadian)...PLATE, JACK
19	4-904-419-01	(SILVER)...KNOB (PUSH C), T
19	4-904-419-11	(BLACK)....KNOB (PUSH C), T
20 ♦	4-904-424-01	PLATE, BACK, SLIDE
21	4-904-425-01	(US,Canadian)...KNOB (SPEAKER), PUSH
22 ♦	4-904-426-01	PANEL (LEFT), SUB
23 ♦	4-904-427-01	PANEL (RIGHT), SUB
24 ♦	4-904-428-01	PLATE, GROUND
25 ♦	4-904-431-01	FRAME, CENTER
26 ♦	4-904-433-01	JOINT, PUSH KNOB
27 ♦	4-904-435-01	HOLDER, LED
28 ♦	4-904-438-01	FRAME, PANEL
29	4-904-440-01	(SILVER)...CASE
29	4-904-440-11	(BLACK)....CASE
30 ♦	4-904-446-01	PLATE, GROUND
31	7-682-547-09	SCREW +B 3X6
32	7-685-534-19	(US,Canadian)...SCREW +BTP 2.6X8 TYPE2 N-S
33	7-685-646-11	SCREW +BVTP 3X8 TYPE2 N-S
34	7-685-649-21	SCREW +BVTP 3X14 TYPE2 SLIT
35	7-685-871-01	SCREW +BVTT 3X6 (S)

GENERAL SECTION

No.	Part No.	Description
36	X-3701-069-0	FOOT ASSY, M.F
37	X-4904-401-1	(SILVER)...KNOB ASSY, SLIDE
37	X-4904-401-2	(BLACK)....KNOB ASSY, SLIDE
38	X-4904-402-1	(BLACK)....KNOB ASSY, T
38	X-4904-403-1	(SILVER)...KNOB ASSY, T
39	X-4904-404-1	(SILVER)...PLATE ASSY, BACK
39	X-4904-405-1	(BLACK)....PLATE ASSY, BACK
40	X-4904-406-1	(AEP,G-AEP,UK,E:BLACK)...PANEL ASSY
40	X-4904-407-1	(US,Canadian:BLACK).....PANEL ASSY
40	X-4904-408-1	(Canadian:SILVER).....PANEL ASSY
40	X-4904-409-1	(AEP,G-AEP,E:SILVER).....PANEL ASSY
41	7-685-648-19	SCREW +BVTP 3X12 TYPE2 N-S
42	9-911-843-XX	CUSHION

NOTE:

- The mechanical parts with no reference number in the exploded views are not supplied.
- Items marked " ♦ " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- Due to standardization, parts with part numbers (Δ-ΔΔΔ-ΔΔΔ-XX or Δ-ΔΔΔΔ-ΔΔΔ-X) may be different from those used in the set.

CAPACITORS:
MF:μF, PF:μμF.

RESISTORS
- All resistors are in ohms.
- F : nonflammable

COILS
- MMH : mH, UH : μH

SEMICONDUCTORS
In each case, U : μ, for example:
UA···: μA···, UPA···: μPA···, UPC···: μPC, UPD···: μPD···

ACCESSORY & PACKING MATERIAL

No.	Part No.	Description
61	3-701-308-00	(Canadian,AEP,G-AEP,E:BLACK)..... LABEL, PRODUCT COLOR
61	3-703-729-00	(Canadian,AEP,G-AEP,E:SILVER).... LABEL (SMALL), COLOR
62	3-701-630-00	BAG, POLYETHYLENE
63	3-703-390-01	(US).....INSTRUCTION
64 ♦	3-703-591-01	(G-AEP)...LABEL (23585S)(SMALL), FTZ
65	3-703-713-01	STICKER, SONY SYMBOL (10)
66	3-773-746-11	(Canadian,AEP,UK,E)...MANUAL, INSTRUCTION
66	3-773-746-21	(US).....MANUAL, INSTRUCTION
66	3-773-746-41	(AEP).....MANUAL, INSTRUCTION
66	3-773-746-51	(G-AEP).....MANUAL, INSTRUCTION
67	4-858-078-00	SHEET, PROTECTION
68 ♦	4-904-409-01	(US).....LABEL, MODEL NUMBER (U2)
68 ♦	4-904-410-01	(Canadian)....LABEL, MODEL NUMBER (CA)
68 ♦	4-904-411-01	(AEP,G-AEP)...LABEL, MODEL NUMBER (A)
68 ♦	4-904-412-01	(UK).....LABEL, MODEL NUMBER (UK)
68 ♦	4-904-414-01	(E).....LABEL, MODEL NUMBER (E)
69	4-904-441-01	INDIVIDUAL CARTON
70	4-904-442-01	CUSHION (LEFT), LOWER
71	4-904-443-01	CUSHION (RIGHT), LOWER
72	4-904-444-01	CUSHION (LEFT), UPPER
73	4-904-445-01	CUSHION (RIGHT), UPPER

ELECTRICAL PARTS

Ref.No.	Part No.	Description
501 ⚠	1-526-565-00	(E3)...AC PLUG ADAPTOR
502	1-533-131-00	HOLDER, FUSE
503 ♦	1-535-115-00	(UK)...TERMINAL
504 ♦	1-535-116-00	TERMINAL
505 ♦	1-535-135-00	(US,Canadian)...BASE POST 14MM (10MM PITCH)
506 ♦	1-535-139-00	(AEP,G-AEP,UK,E)..... BASE POST 22MM (10MM PITCH)
507 ♦	1-535-140-00	(AEP,G-AEP,UK)..... BASE POST 22MM (10MM PITCH)
508	1-535-416-00	(AEP,G-AEP)...TERMINAL
509 ⚠	1-534-817-XX	(AEP,G-AEP)...CORD, POWER, EULO PLUG
509 ⚠	1-551-472-00	(E).....CORD, POWER
509 ⚠	1-551-628-00	(US,Canadian)...CORD, POWER
509 ⚠	1-551-884-00	(UK).....CORD, POWER
510 ♦	1-562-249-00	(US,Canadian)..SOCKET,CONNECTOR 4P
511 ♦	1-562-250-00	SOCKET, CONNECTOR 5P
512 ♦	1-562-251-00	SOCKET, CONNECTOR 6P
513 ♦	1-562-327-00	SOCKET, CONNECTOR 3P
514 ♦	1-612-417-11	PC BOARD, MAIN
515 ♦	1-612-418-11	PC BOARD, LED.VR
516 ♦	1-612-419-11	(US,Canadian)...PC BOARD, SPEAKER TERMINAL
517 ♦	1-612-420-11	(US,Canadian)...PC BOARD, SPEAKER SWITCH
518 ♦	1-612-421-11	(AEP,G-AEP,UK,E)... PC BOARD, FUSE
519 ♦	1-612-423-11	PC BOARD, HEADPHONE
520 ♦	1-612-691-11	PC BOARD, POWER IC
521 ♦	A-4388-386-A	(AEP,UK,E).....MOUNTED PCB, MAIN
521 ♦	A-4388-387-A	(G-AEP).....MOUNTED PCB,MAIN
521 ♦	A-4388-388-A	(US,Canadian)...MOUNTED PCB, MAIN
C1 ⚠	1-161-744-00	(US,Canadian,AEP,G-AEP,E).... CERAMIC 0.01MF 400V
C2 ⚠	1-161-744-00	(UK).....CERAMIC 0.01MF 400V
C3 ⚠	1-161-744-00	(AEP,G-AEP,UK)...CERAMIC 0.01MF 400V
C101	1-123-381-00	ELECT 2.2MF 20% 50V
C102	1-161-271-00	(US,Canadian,AEP,UK,E)... CERAMIC 100PF 5% 50V
C102	1-161-315-00	(G-AEP)....CERAMIC 220PF 10% 50V
C103	1-123-318-00	ELECT 33MF 20% 16V
C104	1-108-573-00	MYLAR 0.0056MF 5% 50V
C105	1-108-559-00	MYLAR 0.0015MF 5% 50V
C106	1-123-381-00	ELECT 2.2MF 20% 50V
C107	1-161-315-00	CERAMIC 220PF 10% 50V
C108	1-161-315-00	(G-AEP)....CERAMIC 220PF 10% 50V
C109	1-161-315-00	(G-AEP)....CERAMIC 220PF 10% 50V

NOTE:

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MF:μF, PF:μμF.

RESISTORS

- All resistors are in ohms.
- F : nonflammable

COILS

- MMH : mH, UH : μH

SEMICONDUCTORS

In each case, U : μ, for example:
UA···: μA···, UPA···: μPA···, UPC···: μPC, UPD···: μPD···

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ELECTRICAL PARTS

Ref.No.	Part No.	Description
C110	1-161-315-00	(G-AEP)....CERAMIC 220PF 10% 50V
C111	1-161-315-00	(G-AEP)....CERAMIC 220PF 10% 50V
C112	1-162-113-00	CERAMIC 0.01MF 30% 16V
C113	1-161-267-00	(US,Canadian,AEP,UK,E).... CERAMIC 47PF 5% 50V
C113	1-161-272-00	(G-AEP)....CERAMIC 120PF 5% 50V
C151	1-123-381-00	ELECT 2.2MF 20% 50V
C152	1-161-271-00	(US,Canadian,AEP,UK,E).... CERAMIC 100PF 5% 50V
C152	1-161-315-00	(G-AEP)....CERAMIC 220PF 10% 50V
C153	1-123-318-00	ELECT 33MF 20% 16V
C154	1-108-573-00	MYLAR 0.0056MF 5% 50V
C155	1-108-559-00	MYLAR 0.0015MF 5% 50V
C156	1-123-381-00	ELECT 2.2MF 20% 50V
C157	1-161-315-00	CERAMIC 220PF 10% 50V
C158	1-161-315-00	(G-AEP)...CERAMIC 220PF 10% 50V
C159	1-161-315-00	(G-AEP)...CERAMIC 220PF 10% 50V
C160	1-161-315-00	(G-AEP)...CERAMIC 220PF 10% 50V
C161	1-161-315-00	(G-AEP)...CERAMIC 220PF 10% 50V
C163	1-161-267-00	(US,Canadian,AEP,UK,E).... CERAMIC 47PF 5% 50V
C163	1-161-272-00	(G-AEP)...CERAMIC 120PF 5% 50V
C201	1-130-625-00	FILM 0.027MF 5% 50V
C251	1-130-625-00	FILM 0.027MF 5% 50V
C302	1-123-381-00	ELECT 2.2MF 20% 50V
C303	1-162-104-00	CERAMIC 330PF 10% 50V
C304	1-123-318-00	ELECT 33MF 20% 16V
C305	1-161-269-00	CERAMIC 68PF 5% 50V
C306	1-130-626-00	FILM 0.033MF 5% 50V
C307	1-130-636-00	FILM 0.22MF 5% 50V
C308	1-108-567-00	MYLAR 0.0033MF 5% 50V
C309	1-130-624-00	FILM 0.022MF 5% 50V
C310	1-123-318-00	ELECT 33MF 20% 16V
C311 ⚠	1-123-359-00	ELECT 47MF 20% 35V
C312	1-130-626-00	FILM 0.033MF 5% 50V
C313	1-130-620-00	(G-AEP)....FILM 0.01MF 5% 50V
C315	1-130-620-00	(G-AEP)....FILM 0.01MF 5% 50V
C352	1-123-381-00	ELECT 2.2MF 20% 50V
C353	1-162-104-00	CERAMIC 330PF 10% 50V
C354	1-123-318-00	ELECT 33MF 20% 16V
C355	1-161-269-00	CERAMIC 68PF 5% 50V
C356	1-130-626-00	FILM 0.033MF 5% 50V
C357	1-130-636-00	FILM 0.22MF 5% 50V
C358	1-108-567-00	MYLAR 0.0033MF 5% 50V
C359	1-130-624-00	FILM 0.022MF 5% 50V
C360	1-123-318-00	ELECT 33MF 20% 16V

ELECTRICAL PARTS

Ref.No.	Part No.	Description
C361 ⚠	1-123-359-00	ELECT 47MF 20% 35V
C362	1-130-626-00	FILM 0.033MF 5% 50V
C363	1-130-620-00	(G-AEP).....FILM 0.01MF 5% 50V
C401 ⚠	1-123-513-00	ELECT 100MF 20% 50V
C402 ⚠	1-123-341-00	ELECT 10MF 20% 35V
C403	1-123-307-00	ELECT 100MF 20% 6.3V
C404	1-123-319-00	ELECT 47MF 20% 16V
C405	1-123-319-00	ELECT 47MF 20% 16V
C406 ⚠	1-124-362-00	ELECT 4700MF 20% 42V
C407 ⚠	1-124-362-00	ELECT 4700MF 20% 42V
C408 ⚠	1-102-394-00	CERAMIC 0.01MFX2 250V
C409	1-123-381-00	ELECT 2.2MF 20% 50V
C410	1-123-318-00	ELECT 33MF 20% 16V
C411	1-123-318-00	ELECT 33MF 20% 16V
C412	1-123-307-00	ELECT 100MF 20% 6.3V
C413	1-161-328-00	(G-AEP)...CERAMIC 0.0047MF 30% 25V
C414	1-161-328-00	(G-AEP)...CERAMIC 0.0047MF 30% 25V
C416	1-102-074-00	(US,Canadian)..... CERAMIC 0.001MF 10% 50V
C416	1-161-110-00	(AEP,G-AEP,UK,E)... CERAMIC 0.001MF 10% 50V
CN1 ⚠	1-526-574-00	(US,E,Canadian)...OUTLET, AC (3 GANG)
CN1 ⚠	1-526-694-00	(AEP,G-AEP).....OUTLET, AC
CN1 ⚠	1-526-751-00	(UK).....OUTLET, AC
CN2 ⚠	1-526-694-00	(AEP,G-AEP)...OUTLET, AC
CN2 ⚠	1-526-751-00	(UK).....OUTLET, AC
CN3 ⚠	1-526-694-00	(AEP,G-AEP)...OUTLET, AC
CN3 ⚠	1-526-751-00	(UK).....OUTLET, AC
D401	8-719-107-57	DIODE 1S953-7
D402	8-719-107-57	DIODE 1S953-7
D403	8-719-107-57	DIODE 1S953-7
D404	8-719-910-53	DIODE HZ15-3L
D405	8-719-910-53	DIODE HZ15-3L
D406	8-719-200-02	DIODE 10E-2
D407 ⚠	8-719-300-57	DIODE RB402
D408	8-719-107-57	(AEP,G-AEP,UK,E)...DIODE 1S953-7
D451	8-719-107-57	DIODE 1S953-7
D501	8-719-918-57	DIODE GL-5NG27
D502	8-719-918-57	DIODE GL-5NG27
D503	8-719-918-57	DIODE GL-5NG27
D504	8-719-918-57	DIODE GL-5NG27
D505	8-719-918-57	DIODE GL-5NG27
D506	8-719-918-57	DIODE GL-5NG27

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ELECTRICAL PARTS

Ref.No.	Part No.	Description
D507	8-719-918-57	DIODE GL-5NG27
D508	8-719-918-57	DIODE GL-5NG27
D509	8-719-918-57	DIODE GL-5NG27
D510	8-719-918-57	(US,Canadian)...DIODE GL-5NG27
F1	⚠1-532-285-00	(AEP,G-AEP,E)...FUSE, TIME-LAG T,1.25A
F1	⚠1-532-562-00	(US,Canadian)...FUSE, GLASS TUBE 1.25A
F2	⚠1-532-285-00	(AEP,G-AEP,UK,E)...FUSE, TIME-LAG
IC101	8-759-600-02	IC M5218L
IC301	⚠8-749-946-50	IC STK-465A
J101	1-507-908-11	JACK, PIN 4P (TUNER/PHONE)
J102	1-507-908-11	JACK, PIN 4P (CD/AUX)
J103	1-507-908-11	JACK, PIN 4P (TAPERECORDER)
J301	1-507-825-00	(AEP,G-AEP,UK,E)... JACK, LARGE TYPE (HEADPHONES)
J301	1-507-863-21	(US,Canadian)...JACK, LARGE TYPE (HEADPHONES)
L301	♦1-420-872-00	COIL, AIR CORE 1.22UH
L351	♦1-420-872-00	COIL, AIR CORE 1.22UH
PT1	⚠1-447-824-11	(US,Canadian)....TRANSFORMER, POWER
PT1	⚠1-447-825-11	(E).....TRANSFORMER, POWER
PT1	⚠1-447-826-11	(AEP,G-AEP,UK)...TRANSFORMER, POWER
Q401	8-729-117-54	TRANSISTOR 2SA1175
Q402	⚠8-729-178-54	TRANSISTOR 2SC2785
Q403	8-729-178-54	TRANSISTOR 2SC2785
Q404	8-729-178-54	TRANSISTOR 2SC2785
Q405	8-729-288-02	TRANSISTOR 2SD880
Q406	8-729-283-42	TRANSISTOR 2SB834
Q407	8-729-178-54	TRANSISTOR 2SC2785
Q408	8-729-178-54	TRANSISTOR 2SC2785
Q451	8-729-117-54	TRANSISTOR 2SA1175
R101	1-247-131-00	CARBON 1K 5% 1/4W
R102	1-247-171-00	CARBON 47K 5% 1/4W
R103	1-246-537-00	CARBON 470K 5% 1/4W
R104	1-246-471-00	CARBON 820 5% 1/4W
R105	1-246-539-00	CARBON 560K 5% 1/4W
R106	1-247-171-00	CARBON 47K 5% 1/4W
R107	1-247-179-00	CARBON 100K 5% 1/4W
R108	1-247-131-00	CARBON 1K 5% 1/4W
R109	1-247-147-00	CARBON 4.7K 5% 1/4W
R111	1-247-119-00	(US,Canadian,AEP,UK,E).... CARBON 330 5% 1/4W
R111	1-246-465-00	(G-AEP)...CARBON 470 5% 1/4W
R112	1-246-465-00	(G-AEP)...CARBON 470 5% 1/4W
R113	1-246-465-00	(G-AEP)...CARBON 470 5% 1/4W
R114	1-246-465-00	(G-AEP)...CARBON 470 5% 1/4W
R115	1-246-465-00	(G-AEP)...CARBON 470 5% 1/4W

ELECTRICAL PARTS

Ref.No.	Part No.	Description
R151	1-247-131-00	CARBON 1K 5% 1/4W
R152	1-247-171-00	CARBON 47K 5% 1/4W
R153	1-246-537-00	CARBON 470K 5% 1/4W
R154	1-246-471-00	CARBON 820 5% 1/4W
R155	1-246-539-00	CARBON 560K 5% 1/4W
R156	1-247-171-00	CARBON 47K 5% 1/4W
R157	1-247-179-00	CARBON 100K 5% 1/4W
R158	1-247-131-00	CARBON 1K 5% 1/4W
R159	1-247-147-00	CARBON 4.7K 5% 1/4W
R161	1-247-119-00	(US,Canadian,AEP,UK,E).... CARBON 330 5% 1/4W
R161	1-246-465-00	(G-AEP)...CARBON 470 5% 1/4W
R162	1-246-465-00	(G-AEP)...CARBON 470 5% 1/4W
R163	1-246-465-00	(G-AEP)...CARBON 470 5% 1/4W
R164	1-246-465-00	(G-AEP)...CARBON 470 5% 1/4W
R165	1-246-465-00	(G-AEP)...CARBON 470 5% 1/4W
R201	1-247-139-00	CARBON 2.2K 5% 1/4W
R202	1-247-171-00	CARBON 47K 5% 1/4W
R203	1-247-171-00	CARBON 47K 5% 1/4W
R251	1-247-139-00	CARBON 2.2K 5% 1/4W
R252	1-247-171-00	CARBON 47K 5% 1/4W
R253	1-247-171-00	CARBON 47K 5% 1/4W
R301	1-247-131-00	CARBON 1K 5% 1/4W
R302	1-247-173-00	CARBON 56K 5% 1/4W
R303	1-246-474-00	CARBON 1.1K 5% 1/4W
R304	1-247-173-00	CARBON 56K 5% 1/4W
R305	1-246-501-00	CARBON 15K 5% 1/4W
R306	1-246-530-00	CARBON 240K 5% 1/4W
R307	1-247-161-00	CARBON 18K 5% 1/4W
R308	1-247-139-00	CARBON 2.2K 5% 1/4W
R309	1-247-151-00	CARBON 6.8K 5% 1/4W
R310	1-246-471-00	CARBON 820 5% 1/4W
R311	1-244-885-00	CARBON 3.3K 5% 1/2W
R312	1-247-131-00	CARBON 1K 5% 1/4W
R313	⚠1-207-615-00	METAL PLATE 0.33 10% 2W
R314	1-244-825-00	CARBON 10 5% 1/2W
R315	⚠1-247-192-00	(US,Canadian).... CARBON 10 5% 1/2W F
R315	⚠1-247-198-00	(AEP,G-AEP,UK E).... CARBON 18 5% 1/2W F
R316	1-244-861-00	CARBON 330 5% 1/2W
R317	⚠1-247-192-00	(G-AEP)..CARBON 10 5% 1/2W F
R318	1-247-173-00	CARBON 56K 5% 1/4W
R351	1-247-131-00	CARBON 1K 5% 1/4W
R352	1-247-173-00	CARBON 56K 5% 1/4W
R353	1-246-474-00	CARBON 1.1K 5% 1/4W

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ELECTRICAL PARTS

Ref.No.	Part No.	Description				
R354	1-247-173-00	CARBON	56K	5%	1/4W	
R355	1-246-501-00	CARBON	15K	5%	1/4W	
R356	1-246-530-00	CARBON	240K	5%	1/4W	
R357	1-247-161-00	CARBON	18K	5%	1/4W	
R358	1-247-139-00	CARBON	2.2K	5%	1/4W	
R359	1-247-151-00	CARBON	6.8K	5%	1/4W	
R360	1-246-471-00	CARBON	820	5%	1/4W	
R361	1-244-885-00	CARBON	3.3K	5%	1/2W	
R362	1-247-131-00	CARBON	1K	5%	1/4W	
R363 ⚠	1-207-615-00	METAL PLATE	0.33	10%	2W	
R364	1-244-825-00	CARBON	10	5%	1/2W	
R365 ⚠	1-247-192-00	(US,Canadian).... CARBON	10	5%	1/2W	F
R365 ⚠	1-247-198-00	(AEP,G-AEP,UK,E).... CARBON	18	5%	1/2W	F
R366	1-244-861-00	CARBON	330	5%	1/2W	
R367 ⚠	1-247-192-00	(G-AEP)..CARBON	10	5%	1/2W	F
R368	1-247-173-00	CARBON	56K	5%	1/4W	
R401	1-247-151-00	CARBON	6.8K	5%	1/4W	
R402	1-247-167-00	CARBON	33K	5%	1/4W	
R403 ⚠	1-247-107-00	CARBON	100	5%	1/4W	F
R404	1-247-131-00	CARBON	1K	5%	1/4W	
R405	1-247-167-00	CARBON	33K	5%	1/4W	
R406	1-247-151-00	CARBON	6.8K	5%	1/4W	
R407	1-246-541-00	(US,Canadian)..... CARBON	680K	5%	1/4W	
R407	1-246-533-00	(AEP,G-AEP,UK,E)... CARBON	330K	5%	1/4W	
R408	1-246-505-00	CARBON	22K	5%	1/4W	
R409 ⚠	1-206-640-00	METAL OXIDE	100	5%	2W	F
R410	1-247-139-00	CARBON	2.2K	5%	1/4W	
R411	1-247-139-00	CARBON	2.2K	5%	1/4W	
R412 ⚠	1-206-640-00	(US,Canadian)..... METAL OXIDE	100	5%	2W	F
R412 ⚠	1-206-644-00	(AEP,G-AEP,UK,E)... METAL OXIDE	150	5%	2W	F
R413	1-213-140-00	METAL OXIDE	560	5%	1W	F
R415 ⚠	1-247-083-00	(AEP,G-AEP,UK E)... SOLID	10		1/4W	F
R416 ⚠	1-202-855-00	(AEP,G-AEP,UK,E)... SOLID	15		1/4W	F
R417	1-247-173-00	CARBON	56K	5%	1/4W	
R418 ⚠	1-247-083-00	(US,Canadian)..... CARBON	10	5%	1/4W	F
R418	1-246-487-00	(AEP,G-AEP,UK,E)... CARBON	3.9K	5%	1/4W	

ELECTRICAL PARTS

Ref.No.	Part No.	Description				
R451	1-247-151-00	CARBON	6.8K	5%	1/4W	
R452	1-247-167-00	CARBON	33K	5%	1/4W	
R454	1-247-131-00	CARBON	1K	5%	1/4W	
R502	1-246-468-00	CARBON	620	5%	1/4W	
R503	1-246-468-00	CARBON	620	5%	1/4W	
R504	1-246-468-00	CARBON	620	5%	1/4W	
R505	1-246-468-00	CARBON	620	5%	1/4W	
R506	1-246-468-00	(US,Canadian).... CARBON	620	5%	1/4W	
R507	1-246-468-00	CARBON	620	5%	1/4W	
RV201	1-230-417-11	RES, VAR, SLIDE 100K/100K (VOLUME)				
RV301	1-230-418-11	RES, VAR, SLIDE 250K (BALANCE)				
RV302	1-230-419-11	RES, VAR, SLIDE 100K/100K (TREBLE)				
RV303	1-230-419-11	RES, VAR, SLIDE 100K/100K (BASS)				
RY301	1-515-533-11	RELAY				
S1	1-554-835-11	SWITCH, PUSH (5 KEY) (PHONE/TUNER/CD/AUX/TAPE)				
S2	1-554-833-11	SWITCH, PUSH (1 KEY)(LOUDNESS)				
S3	1-554-834-11	(US,Canadian)...SWITCH, PUSH (2 KEY) (SPEAKERS)				
S10 ⚠	1-553-318-00	(US,Canadian,E)...SWITCH, PUSH (AC POWER)(1 KEY)				
S10 ⚠	1-554-685-31	(AEP,G-AEP,UK)....SWITCH, PUSH (AC POWER)(1 KEY)				
TM301	1-536-705-00	(AEP,G-AEP,UK,E)...TERMINAL BOARD (SP)				
TM301	1-536-706-00	(US,Canadian).....TERMINAL BOARD (SP)				
VS1 ⚠	1-526-576-51	(E)...SELECTOR, POWER VOLTAGE				

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RESISTORS

- All resistors are in ohms.
- F : nonflammable

COILS

- MMH : mH, UH : μH

SEMICONDUCTORS

In each case, U : μ, for example:
UA···: μA···, UPA···: μPA···, UPC···: μPC, UPD···: μPD···

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Les composants identifiés par une trame et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

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